

PATENT COOPERATION TREATY

From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

PCT

WRITTEN OPINION (PCT Rule 66)

To:

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REPLY DUE

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International filing date (day/month/year)

02.10.2003

Priority date (day/month/year)

03.10.2002

International Patent Classification (IPC) or both national classification and IPC

B60K1/04

Applicant

TOYOTA JIDOSHA KABUSHIKI KAISHA

1. This written opinion is the **first** drawn up by this International Preliminary Examining Authority.
2. This opinion contains indications relating to the following items:
 - I ☒ Basis of the opinion
 - II ☐ Priority
 - III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
 - IV ☐ Lack of unity of invention
 - V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
 - VI ☐ Certain documents cited
 - VII ☐ Certain defects in the international application
 - VIII ☐ Certain observations on the international application
3. The applicant is hereby **invited to reply** to this opinion.

When? See the time limit indicated above. The applicant may, before the expiration of that time limit, request this Authority to grant an extension, see Rule 66.2(d).

How? By submitting a written reply, accompanied, where appropriate, by amendments, according to Rule 66.3. For the form and the language of the amendments, see Rules 66.8 and 66.9.

Also: For an additional opportunity to submit amendments, see Rule 66.4.
For the examiner's obligation to consider amendments and/or arguments, see Rule 66.4 bis.
For an informal communication with the examiner, see Rule 66.6.

If no reply is filed, the international preliminary examination report will be established on the basis of this opinion.
4. The final date by which the international preliminary examination report must be established according to Rule 69.2 is: 03.02.2005

14.10.04

WV 14.8. ✓

Name and mailing address of the international preliminary examining authority:



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I. Basis of the opinion

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this opinion as "originally filed"*):

Description, Pages

1-12 as originally filed

Claims, Numbers

1-17 as originally filed

Drawings, Sheets

1/5-5/5 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:
- ☐ the drawings, sheets:

5. ☐ This opinion has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

6. Additional observations, if necessary:

V. Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**1. Statement**

Novelty (N)	Claims	1-5,11-17
Inventive step (IS)	Claims	6-10
Industrial applicability (IA)	Claims	

2. Citations and explanations**see separate sheet**

Re Item V

Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1 Reference is made to the following documents:

D1: US 2002/060100 A1 (KOMURO NOBUAKI ET AL) 23 May 2002 (2002-05-23)

D2: US-A-5 704 644 (JAGGI DIEGO) 6 January 1998 (1998-01-06)

D3: DE 100 10 398 A (MANNESMANN AG) 13 September 2001 (2001-09-13)

2 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claims 1 to 5 and 11 to 17 is not new in the sense of Article 33(2) PCT.

2.1 Regarding **claim 1**, the document D1 discloses a fuel cell equipped vehicle mounted with a fuel cell (43) that generates electricity through a reaction of fuel gas and oxidation gas, wherein the fuel cell is disposed in a vehicle passenger room.

2.2 Regarding **claim 2**, D1 further discloses that the fuel cell is disposed in a fuel cell recess portion of a floor panel.

2.3 Regarding **claim 3**, D1 further discloses that the fuel cell recess portion is so formed as to be interposed between a pair of underfloor reinforcements (see longitudinals of chassis 12).

2.4 Regarding **claim 4**, D1 discloses that the vehicle further comprises a storage battery (44) disposed in the passenger room.

2.5 Regarding **claim 5**, D1 further discloses that the storage battery (44) is disposed in a storage battery recess portion of the floor panel.

2.6 Regarding **claim 11**, the document D3 (see column 5, lines 59-63) discloses a fuel cell equipped vehicle mounted with a fuel cell (15) that generates electricity through a reaction of fuel gas and oxidation gas, wherein the fuel cell is disposed

in a vehicle passenger room, further comprising a fuel gas feed unit (17) for supplying the fuel cell with fuel gas, wherein the fuel gas feed unit is disposed outside the vehicle passenger room.

- 2.7 Regarding **claim 12**, D3 further discloses that the fuel gas feed unit is disposed behind the rear seats.
- 2.8 Regarding **claim 13**, D1 further discloses that the vehicle comprises a motor (51) for driving at least rear wheels, wherein the electric power of at least one of the fuel cell and the storage battery is supplied to the motor.
- 2.9 Regarding **claim 14**, D1 further discloses that the vehicle comprises fuel cell auxiliaries (for example pump 116 from reforming unit to fuel cell) constituting auxiliaries of the fuel cell, disposed in a vehicle front room.
- 2.10 Regarding **claim 15**, D1 further discloses that the fuel cell auxiliaries are disposed around the fuel cell.
- 2.11 Regarding **claim 16**, D1 further discloses that the fuel cell auxiliaries are disposed below the floor panel.
- 2.12 Regarding **claim 17**, D1 discloses a vehicle (10) comprising a vehicle passenger room and a fuel (43) cell that generates electricity through a reaction of fuel gas and oxidation gas, wherein the fuel cell is disposed in the vehicle passenger room.
- 3 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claims 6 to 10 does not involve an inventive step in the sense of Article 33(3) PCT.
- 3.1 Regarding **claim 6**, its subject-matter differs from D1 in that the storage battery recess portion is disposed in a staged recess portion below front seats such that an upper face of the storage battery substantially coincides with a reference plane of the floor panel. The problem to be solved by the present invention may therefore be regarded as providing a structure that at the same time allows the storage of the battery and improves the resistance of the vehicle structure against side impacts. D2 (see column 1, lines 32 to 55) discloses a storage battery recess

portion with the features of claim 6 in order to solve the mentioned objective problem. Therefore, it would be obvious for the person skilled in the art to include a storage battery recess with the features of D2 in the vehicle according to D1 in order to solve said problem. Claim 6 is, therefore, not inventive.

- 3.2 Regarding **claim 7**, D2 (see column 5, lines 35 to 47) further discloses that a fuel cell can be installed below the front seats. From D1 it is obvious that the storage battery can be disposed below the feet of the passengers of the rear seats because it discloses that the storage battery is disposed under the floor and it could be moved to the back of a vehicle having rear seats, in order to redistribute weight without the need of inventive skills. Therefore, the subject-matter of claim 7 is not inventive.
- 3.3 Regarding **claim 8**, D1 discloses that the fuel cell can be disposed under the floor. In order to redistribute weight (for example to find the optimum center of gravity of the vehicle), the fuel cell could be moved to the back of a vehicle having rear seats without the need of inventive skills. Therefore, the subject-matter of claim 8 is not inventive.
- 3.4 Regarding **claim 9**, the fuel cell and battery of D1 could be moved and oriented with their longitudinal directions coincident with a lateral direction of the vehicle in order to fit them in the recess portion without the need of inventive skills. Therefore, the subject-matter of claim 9 is not inventive.
- 3.5 Regarding **claim 10**, the fuel cell being formed higher than the storage battery is seen as a mere dimensional relation between the fuel cell and the storage battery without any surprising effect. Therefore, it does not involve an inventive step.
- 4 It is not at present apparent which part of the application could serve as a basis for a new, allowable claim. Should the applicant nevertheless regard some particular claim as allowable, a new set of claims should be filed taking care not to add subject-matter to the application as originally filed (Article 19(2) PCT).